

CLAIMS

1. Process for estimating a propagation channel formed by successive symbols of a multi-carrier signal each comprising at least one reference pilot and a plurality of frequencies carrying data,

5 characterised in that it comprises at least one step for correction of the said reference pilot(s) as a function of a first estimate of a propagation channel, so as to produce a second more precise so-called channel estimate.

10 2. Process for estimating a propagation channel according to claim 1, characterised in that the said first estimating step for a propagation channel takes account of received pilots before they have been corrected.

15 3. Process for estimating a propagation channel according to either of claims 1 and 2, characterised in that the said correction step includes a step to calculate an amplitude and / or phase error vector for each of the said reference pilots.

20 4. Process for estimating a propagation channel according to claim 3, characterised in that the said error vector calculation step includes averaging of a set of error vectors obtained on at least one symbol.

25 5. Process for estimating a propagation channel according to claim 4, characterised in that the said averaging is calculated on each symbol.

6. Process for estimating a propagation channel according to either of claims 4 and 5, characterised in that the said set of error vectors only includes error vectors that satisfy at least one predetermined quality 5 criterion.

7. Process for estimating a propagation channel according to any one of claims 3 to 6, characterised in that the said calculation step for an amplitude and / or phase error vector comprises a preliminary step in which 10 the said pilots with an amplitude less than a first predetermined minimum average threshold and / or greater than a second predetermined maximum average threshold are rejected, so as to prevent any risk of introducing a bias into the calculation of the said amplitude and / or phase 15 error vector

8. Process for estimating a propagation channel according to any one of claims 1 to 7, characterised in that the said second estimate includes an equalisation step that depends on the first channel estimate.

9. Process for estimating a propagation channel according to claim 8, characterised in that the said equalisation step is performed on all carrier frequencies of each of the said symbols.

10. Process for estimating a propagation channel 25 according to any one of claims 3 to 9, characterised in that it comprises a step after the said equalisation step to calculate a pulse response of a propagation channel as a function of reference pilots equalised for refining synchronisation of receivers in time.

11. Process for estimating a propagation channel according to any one of claims 1 to 10, characterised in that the said the reference pilot correction step includes a division of these pilots by the first 5 propagation channel estimate.

12. Process for estimating a propagation channel according to any one of claims 1 to 11, characterised in that the said step for correction of the reference pilots also includes a final step to correct all equalised 10 useful carriers taking account of the average value obtained as a result of averaging.

13. Process for estimating a propagation channel according to any one of claims 1 to 12, characterised in that it is used for correction of at least one phase and 15 / or amplitude error common to two cells in the same OFDM (Orthogonal Frequency Division Multiplex) type symbol.

14. Device for estimating a propagation channel formed from successive symbols of a multi-carrier signal each comprising at least one reference pilot, and a 20 plurality of data carrier frequencies,

characterised in that it comprises means of correcting the said reference pilot(s) as a function of a first estimate of a propagation channel, so as to produce a second more precise channel estimate.